Gaseous detector chapter towards CEPC TDR

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Weekly meeting of CEPC TDR Group, July 09, 2024

Gaseous detector chapter for CEPC TDR

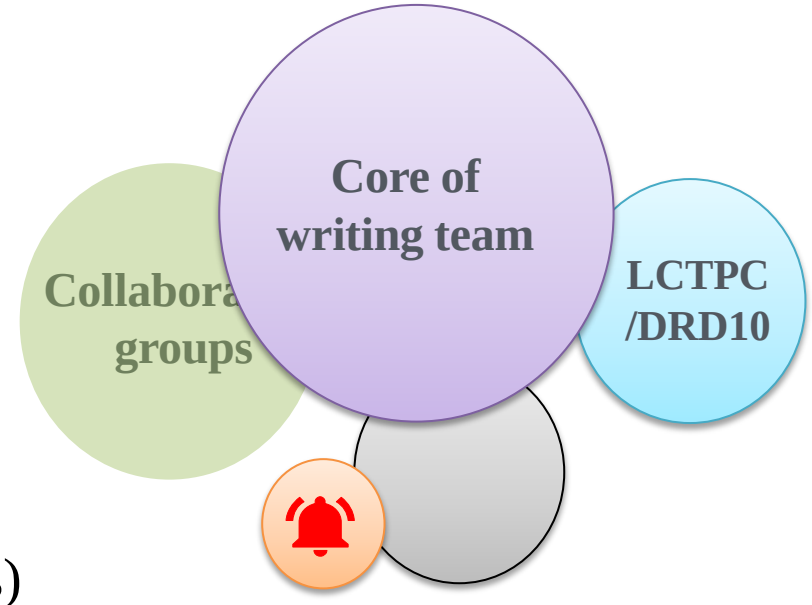
- Preliminary contents of the gaseous track detector chapter in CEPC TDR
  - As one separate chapter – Gaseous trackers
  - Includes issues from physical requirements, selection, simulation, performance and cost.

https://latex.ihep.ac.cn

Chapter 4 Gaseous trackers

Writing Team of gaseous detector part

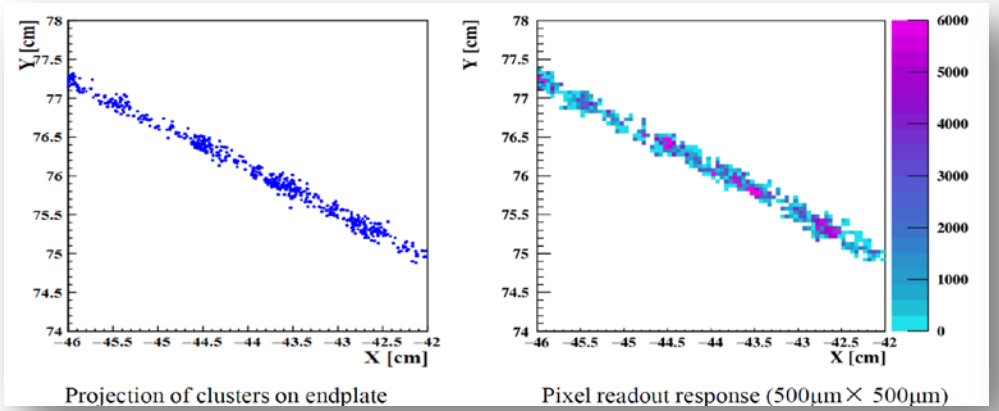
- **Core of the writing team**
  - IHEP: Huirong Qi, Linghui Wu, Guang Zhao, Mingyi Dong, Yue Chang, Xin She, Jinxian Zhang, Junsong Zhang
  - Tsinghua: Zhi Deng, Canwen Liu, Guanghua Gong, Feng He, Jianmeng Dong, Yanxiao Yang
- **Collaboration groups of the writing team**
  - CIAE (原子能院): Xiaomei Li, Jing Zhou
  - Shandong University (山东大学): Chengguang Zhu
  - Nankai University (南开大学)，Zhengzhou Unviersity (郑州大学) and Liaoning University (辽宁大学)
  - LCTPC collaboration and DRD1 collaboration
    - NIKHEF: Peter Kluit
    - CEA-Saclay: Paul Colas, Maxim Titov
    - DESY: Oliver, Ron Settle



- **Organization of team**
  - Regular weekly meeting (Domestic meetings mainly)
  - Indico + Online meeting + Minutes released
  - LCTPC collaboration bi-weekly meeting (International meetings)
  - DRD1 WP4 unscheduled meetings

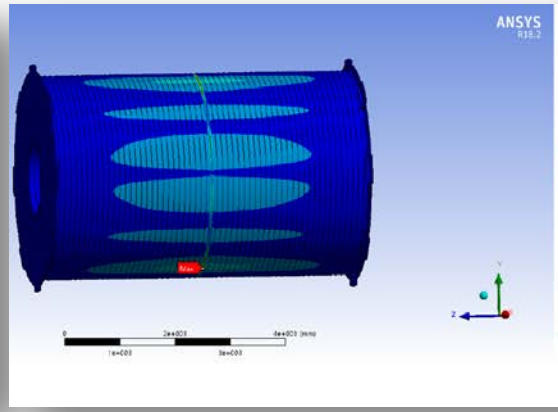
Design and assembled module of the beam test

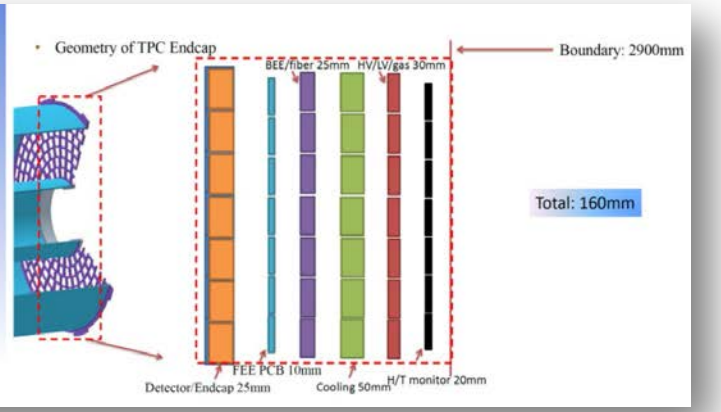
- FEE、DAQ and BEE electronics collaboration are smooth and pushed quickly.
  - Two Aluminum backframes have been done.
- TPC with cluster counting and FEA calculation ongoing
  - Ultra-light material of the TPC barrel can be choose.

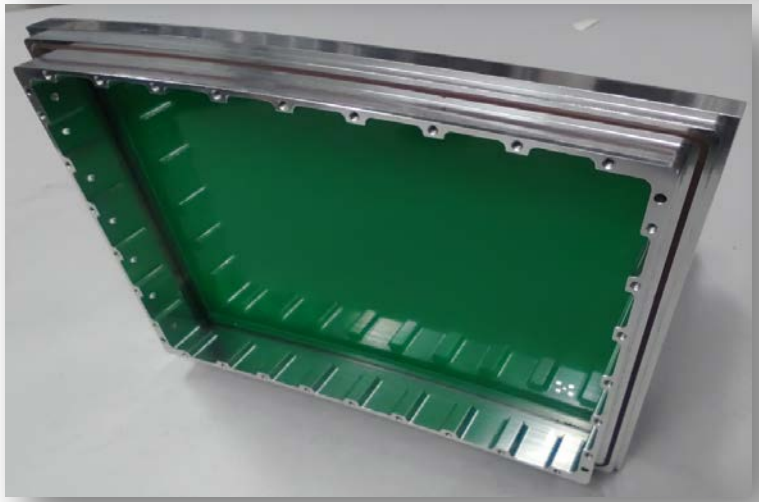


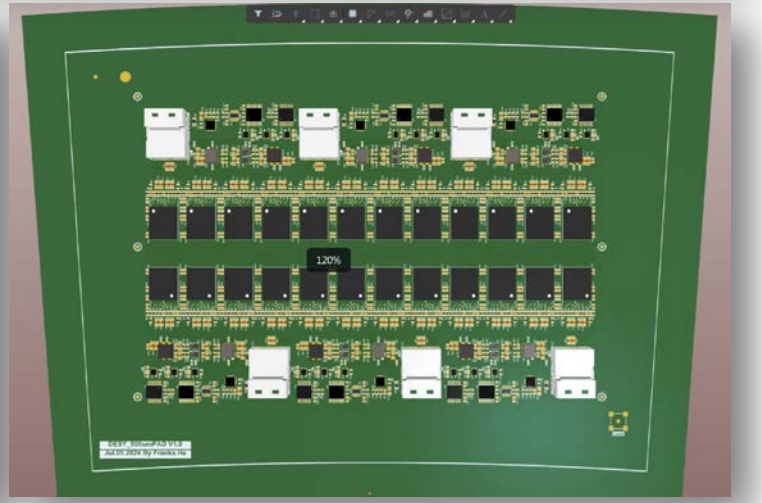
Projection of clusters on endplate

Pixel readout response (500μm× 500μm)









Many thanks!